Johns Hopkins PICU & PCICU

HFNC Flow Weaning Algorithm for Bronchiolitis

WHO? WHAT?

RT-led HFNC weaning protocol for patients </= 2 years old in the PICU or PCICU on HFNC for bronchiolitis.

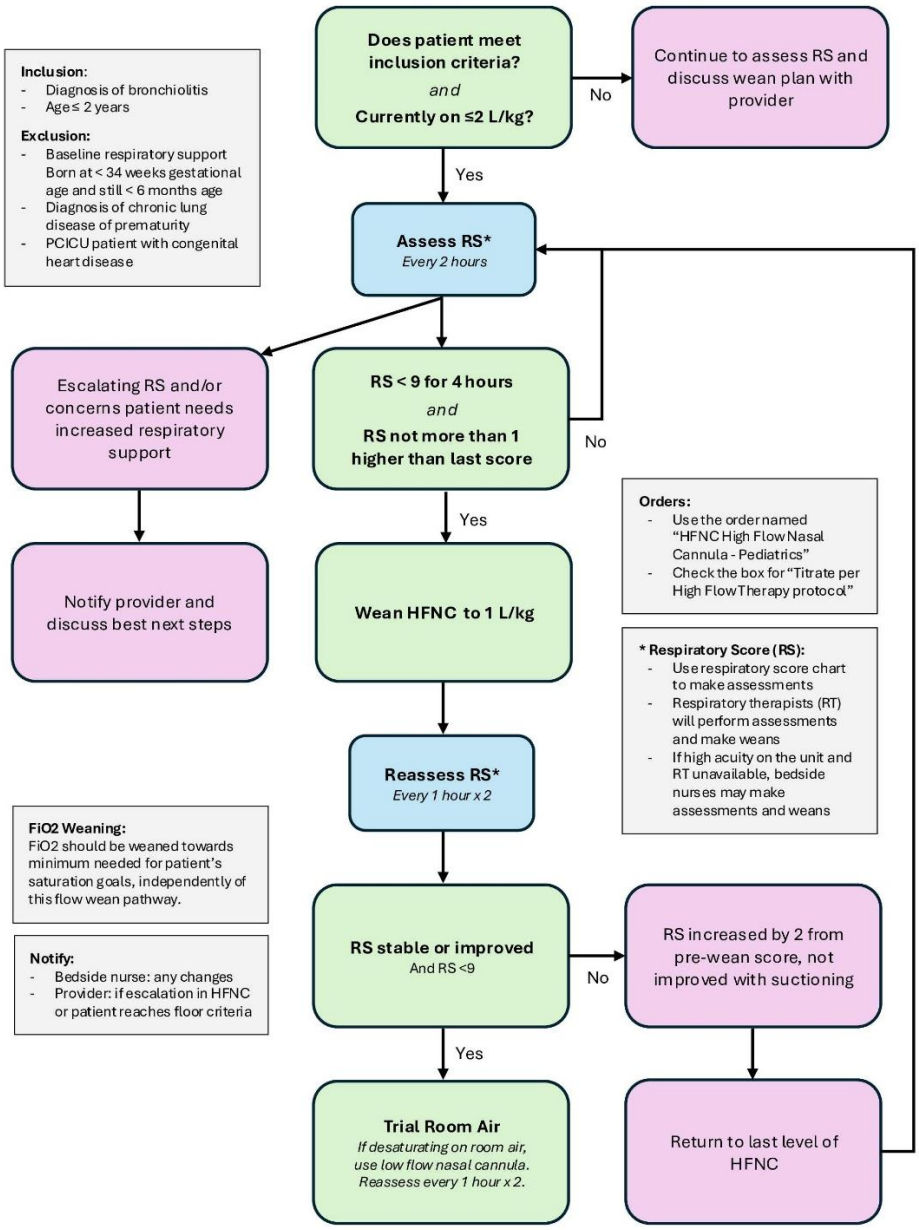
WHY?

Patients can progress out of the ICU faster, be allowed to eat earlier, and potentially go home sooner!

HOW?

- Front Line Clinicians enter "HFNC High Flow Nasal Cannula – Pediatrics" order and check box for "Titrate per High Flow Therapy Protocol"

- RTs lead respiratory scoring and advance per protocol


Inclusion:
- Diagnosis of bronchiolitis
- Age ≤ 2 years
Exclusion:
- Baseline respiratory support Born at < 34 weeks gestational age and still < 6 months age
- Diagnosis of chronic lung disease of prematurity
- PCICU patient with congenital heart disease
Does patient meet inclusion criteria? and Currently on ≤2 L/kg?
No
Continue to assess RS and discuss wean plan with provider
Yes
Assess RS* Every 2 hours
Escalating RS and/or concerns patient needs increased respiratory support
RS < 9 for 4 hours and RS not more than 1 higher than last score
No
Yes
Notify provider and discuss best next steps
Wean HFNC to 1 L/kg
Orders:
- Use the order named "HFNC High Flow Nasal Cannula - Pediatrics"
- Check the box for "Titrate per High Flow Therapy protocol"
* Respiratory Score (RS):
- Use respiratory score chart to make assessments
- Respiratory therapists (RT) will perform assessments and make weans
- If high acuity on the unit and RT unavailable, bedside nurses may make assessments and weans
Reassess RS* Every 1 hour x 2
FiO2 Weaning:
FiO2 should be weaned towards minimum needed for patient's saturation goals, independently of this flow wean pathway.
Notify:
- Bedside nurse: any changes
- Provider: if escalation in HFNC or patient reaches floor criteria
RS stable or improved And RS <9
No
RS increased by 2 from pre-wean score, not improved with suctioning
Yes
Trial Room Air If desaturating on room air, use low flow nasal cannula. Reassess every 1 hour x 2.
Return to last level of HFNC

HFNC = High Flow Nasal Cannula; RS = Respiratory Score

Respiratory Score Tool:

		0 Points	1 Point	2 Points	3 Points
Respiratory Rate	0-8 weeks		≤ 60	61-69	≥ 70
	2-11 months		≤ 50	51-59	≥ 60
	12-23 months		≤ 40	41-44	≥ 45
Retractions		None	Subcostal or intercostal	Two of the following: - Subcostal - Intercostal - Nasal flaring (infant)	Three of the following: - Subcostal - Intercostal - Substernal - Suprasternal - Supraclavicular - Nasal flaring/head bobbing (infant)
Dyspnea		Normal activity, vocalizations, and feeding	One of the following: - Agitation - Decreased vocalizations - Difficulty feeding*	Two of the following: - Agitation - Decreased vocalizations - Difficulty feeding*	- Drowsy or confused - No vocalization - Stops feeding*
Auscultation		Normal breathing, no wheezing present	End-expiratory wheeze only	Expiratory wheeze only (greater than end-expiratory wheeze)	Inspiratory and expiratory wheeze OR diminished breath sounds OR both

* Does not count towards points if providers have chosen to make patient NPO.
** Respiratory therapists (RT) to make assessments and weans. Bedside nursing can perform assessments/weans if high acuity on unit and RT unavailable.